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ABSTRACT

Screening and identification for gifted services is frequently dependent on the students displaying certain typical behaviors associated with gifted learners as well as strong test taking skills. Children with backgrounds that differ from the mainstream are not well-represented in gifted programs because they never even get to, much less through, the screening process. Referral for gifted programs requires that someone notice a student's strengths. Those who are referred for testing face the hurdle of assessments that depend on language. Thinking and problem-solving skills may be masked by limited use of language, disadvantaging many groups of children, including those who are poor or rural or who come from cultural or linguistic backgrounds different from the mainstream. Nonverbal standardized measures have the potential to identify gifted students who would be missed by the usual screening tests. Nonverbal tests assess problem-solving skills using graphical figures with no words. The Culture Fair Intelligence Tests, Naglieri Nonverbal Ability Test, and Raven's Standard Progressive Matrices are briefly described. Studies of these tests with White, Hispanic, and African American students found that each test had its advantages and disadvantages and worked better with some populations than others. Researchers tested whole classes as the first step in the identification process, an approach that eliminates teacher judgment and provides greater equity of opportunity. (SV)

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LANGUAGE ISN'T NEEDED: NONVERBAL ASSESSMENTS AND GIFTED LEARNERS

Screening and identification for gifted services is frequently dependent on the students displaying certain typical behaviors associated with gifted learners as well as strong test taking skills. Children with background experiences that differ from the mainstream (i.e., rural, low SES, LEP, different cultural heritage) are not well-represented in many gifted programs because they never even get *to*, much less *through*, the screening process. Parents may not know the services exist or see the relevance to their lives and therefore do not request testing. Teachers and other educators may not recognize non-typical manifestations of "gifted characteristics" and not request testing. Community members may not volunteer their knowledge of high level skills they observe outside of school for a variety of reasons. Neither they nor parents may realize the possibility or value of nominating a child for gifted services.

Yet referral for gifted programs requires that *someone* notice the strengths of these students and support them. Few culturally different children are tested for gifted services when compared to children from the dominant culture (Castellano, 1998). Hispanic, African-American, and Native American students are gravely underrepresented in classes for students of gifted and talented abilities (De Leon & Argus-Calvo, 1997; Spicker, Fletcher, Montgomery, & Breard, 1993).

Those who are referred for testing face the hurdle of assessments that depend on language. Students who lack mastery of English may produce depressed test scores. Because their ability to think and problem solve at high levels is masked by their limited use of language. Unless there are alternate methods included in the identification process, culturally different children are at a distinct disadvantage. Their language facility may be poor, they may not have the depth of usage or comprehension to grapple with difficult topics, and they may not have the experiential background from which to draw when solving problems (Barkan & Bernal, 1991). Nevertheless, there are children among this group that are capable of working at a gifted level in valued areas of learning the same as children from the dominant culture (Spicker et al., 1993).

Even when students are native speakers of English, they may not be readily identified for gifted and talented programs. For example, children from rural and disadvantaged backgrounds perform less well on standardized tests. These kinds of tests are frequently biased in favor of white, middle to upper class suburban and urban children (Clark, 1997). Children who live in poverty or who may have limited proficiency in English are not readily identified in this manner (Spicker, Southern, & Davis, 1991). They tend to be more able to demonstrate their abilities on nonverbal rather than verbal tests (Spicker et al., 1993). Therefore, there is considerable interest in testing potentially gifted children using nonverbal standardized measures (e.g., Nasca, 1988; Spicker et al., 1993; Stephen, Kiger, Karnes, & Whorton, 1999). These tests are not a panacea; however, as problem solving with patterns is no more a universal indicator of intelligent behavior than is facility with language. Nevertheless, nonverbal tests provide one more tool to be included in the identification process. "One does not have to be fluent in English to be intelligent" (Barkan & Bernal, 1991, p. 144).

Selection of assessment instruments that allow the student to demonstrate more of his/her ability is an ethical necessity (Drummond, 2000). Even nonverbal assessments are not fair to all students; such a test may not be possible given human diversity. Tests capture a moment in time, essentially a snapshot of a student's skills in a specific area under specific conditions. If the test asks the "right" questions for that student, the student has an increased chance of achieving a high score. Still, use of multiple assessments can do a better job of capturing the more fluid nature of a construct as complex as intelligence in its many manifestations (Nasca, 1988). Nonverbal assessments need to be a part of the screening and identification process for gifted learners.

Published research investigating the use of alternative assessments, particularly nonverbal measures, for uncovering potentially gifted learners is sparse and the methods of their use differ. Stephen et al. (1999) recently

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conducted a study focusing on low income students in a rural southern school who were primarily (91%) African-American. Using three non-verbal assessments, the Culture Fair Intelligence Test (Cattell & Cattell, 1965), the Naglieri Nonverbal Abilities Test (Naglieri, 1996), and the Raven Standard Progressive Matrices (Raven, Court, & Raven, 1996), they screened intact classes of students in grades 3-8 looking for students who were potentially gifted. In this study, the Raven Matrices identified more students scoring at or above the 80th percentile than did either of the other two tests; however, the Culture Fair and Naglieri identified some students not found by the Raven Matrices. Likewise, Lewis and Michelson Grippin (2000) employed the same intact class model, tests, and grade levels. This study focused on two schools serving low-income and often rural families that had a relatively high incidence of Hispanic students in a midwestern town. Both studies are discussed in greater detail later in this article.

Nonverbal tests may contain an element of language that needs to be considered. The directions for each test employed in the Lewis and Michelson Grippin (2000) and Stephen et al. (1999) studies were verbal and given in English; however, the modeling component that accompanies these verbal directions helps compensate by allowing the administrator to briefly "teach" students the required skill. The tests themselves consist of a variety tasks employing graphical figures with no words. They may be administered in a group or individually.

The Culture Fair Intelligence Tests consist of three separate scales based on age. Scale 1 is for children from 4 to 8 years of age. Scale 2 is appropriate for children 8 years and older and includes adults. Scale 3 is appropriate for people with higher levels of intelligence, age 13 years and above, because it is the most difficult. There are also two forms which, when administered to the same individual within the specified time frame yield an IQ score (Cattell & Cattell, 1965). These tests consist of four separate timed sections that assess series, characteristics, matrices, and conditions. Administration takes about 30 minutes.

The Naglieri Nonverbal Ability Test is a recently published language-free assessment of children's nonverbal reasoning and problem solving abilities that employs the colors yellow and blue as part of the pattern. One of the goals of this test is to identify students of high potential with limited English proficiency. Items are universally recognized shapes and designs that must be completed according to some rule inferred by the student (Naglieri, 1996). The test can be administered to any school-age student and covers grades K-12 using different levels, A though G. Each level contains 38 items and is timed. Administration of the instrument takes about 30 minutes.

Raven's Standard Progressive Matrices are a series of 60 black and white figural analogies, grouped into 5 sets of 12. No letters or numbers are included. Items in each set progress in difficulty and the nature of the task increases in complexity from Set A through Set E. The Raven's has a long history of usage with individuals from many cultures (Raven et al., 1996). Administration usually takes about 25 minutes for this untimed instrument; however, some reflective students may take twice as long.

A word of caution. Care should be taken when administering, scoring, and interpreting these, or any other standardized tests, to follow the directions precisely so as not to invalidate the results. Because the Culture Fair Intelligence Test can yield an IQ score, only qualified personnel should score and interpret it (Cattell & Cattell, 1965). The tests are usually used to screen for potentially gifted learners, not identify them. Nevertheless, the responsibility for appropriate preparation and use should not be taken lightly.

With these concerns in mind, students in both studies being discussed who attained scores of 80%ile or better on one or more of the three instruments were flagged for additional study. Stephen et al. (1999) found 39 scores of 80%ile or greater, 26 different students out of the 189 students who were tested. More students were identified using the Raven's (15); however, each test identified some unique individuals. The procedure was similar for the Lewis and Michelson Grippin (2000) study since it was intentionally replicating the earlier study with a different population. Of the 270 students in grades 3-8 that participated, 89 students were selected with one or more of the tests. The Raven's and CFIT found nearly the same number of students (59 and 58 respectively), more than twice as many students at the NNAT (22). Only 11 students were identified with all three instruments.

Student composition in the Lewis and Michelson Grippin (2000) study was 36.6% Hispanic (99 students), 59.3% White (160 students), and 4.1% Other (11 students). The percentage of Hispanic students was noticeably higher for grades 3-5 (49.6%) and dropped in grades 6-8 (22.9%). Of the students who scored 80%ile or better on one or more of the tests, 25.8% were Hispanic (23 students) and 68.5% were White (61 students), a ratio of 1:2.7

favoring White students compared to the 1:1.7 ratio for the full class. Table 1 summarizes the data on score distribution and racial classification

Table 1. Scores on One or More Test by Percent Score Range and Racial Classification

Percentile on 1 or More Test	Hispanic Students	White Students	Other Classification	Total Students
95%ile or greater	5	18	2	25
90 - 94%ile	5	15	1	21
85 - 89%ile	5	18	1	24
80 - 84%ile	8	10	1	19
Total Students	23 (25.8%)	61 (68.5%)	5 (5.6%)	89

The question then becomes, which test is best? That is not easy to answer. In the Lewis and Michelson Grippin (2000) study, the large majority of potential students were found by a combination of the Raven's and the CFIT (57.6% of scores) while in the Stephen et al. (1999) research, the Raven's was more efficient. The former researchers found that for Hispanic students in their study, the CFIT was more effective, 73.9% of the 23 students meeting or exceeding the 80%ile criteria (17) compared to 52.1% for the Raven's (12 scores). For White students, the Raven's was more successful (44 students, 72.1%) compared to the CFIT (37 students, 60.7%). The NNAT was not as useful, but did contribute some unique scores. Unfortunately, Hispanics are still under identified when compared with the White population; nearly 7 White students for every 4 Hispanic students. Nevertheless, these students might not have been discovered by more traditional means. None of the children in these schools were being served by the district's gifted program. A comparison of scores by test and racial classification are provided in Table 2. Note that the total number of students found with each test is smaller than the number of scores at or above 80%ile; some students reached this criterion on more than one test.

Table 2. Scores Equal To or Better Than 80%ile by Test and Racial Classification

Test	Racial Classification			Total Students
	Hispanic	White	Other	
CFIT	17	37	3	58
NNAT	4	16	2	22
Raven's	12	44	3	59
Total Scores	33	97	8	139
Total Students	23	61	5	89

Coleman and Cross (2000) recommend a continuous program of screening beginning as early as possible and being repeated every year until fourth grade and every other year thereafter. They think this would provide reasonable opportunities for students who have been missed in one grade to be found later. One part of this screening process could include nonverbal assessment. Since not one of the tests alone placed all of the potential participants in the pool for additional assessment, a logical approach might be to use two of these tests, alternating their use from year to year. The Raven's would appear to be the most efficient choice (Lewis & Michelson Grippin, 2000; Stephen et al., 1999) paired with the CFIT (Lewis & Michelson Grippin, 2000).

There are several advantages to the model of intact class testing as a first step in identification process of learners who are gifted. Use of non-verbal assessments can counter most of the language difficulty experienced by many culturally different children. All students are included, so teacher judgment is essentially eliminated. Equity of opportunity at this screening stage provides a more diverse pool of potential applicants than can be obtained with traditional assessments. It is important that the pool of candidates is broad enough that few potentially gifted students are overlooked. The students are then studied more thoroughly to determine their eligibility for gifted services based on student need and the school or district's ability to meet those needs. Coleman and Cross (2000) point out that when all students in the specified grades are included in this screening phase, the goal of equal opportunity to be considered is more nearly attained.

Each test described here has its advantages and may work better for some populations than others. Until additional research is conducted to help clarify which screening procedures are most successful, a combination of assessment methods is recommended to provide a pool of candidates that are more representative of the local population. It then remains for the final identification procedures to be chosen with careful consideration to ensure that the talents of our most able students, regardless of culture, are not squandered -- and provision of services that utilize their strengths.

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